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UNIVERSITAT POLITÈCNICA DE CATALUNYA BARCELONATECH

Barcelona Analysis Seminar	2021 – 2022
${ m URL}$. https://mat.uab.cat/web/seminarianalisi/	
Date. May 09, 2022	
Time. 15:00 CET	
Room. T2, Universitat de Barcelona	
Online streaming (Zoom). https://ub-edu.zoom.us/j/9	5538016558

Self-similar collapse in fluid dynamics and its (in)stability

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Singularity formation from smooth initial data represents a fundamental problem in nonlinear evolution equations. Our model under study, the compressible Euler equations, admits the formation of singularities as shocks and implosions. The latter phenomenon represents the concentration of the fluid around a point, resulting in a finite-time blow-up. This mechanism is known since the XIX century, however, implosions from smooth initial data are a topic of current research. I will discuss recent developments achieved in this direction.